

SEQUENCE LISTING

<110> Rudiger Ridder, et.al.
 <120> Method for solution based diagnosis
 <130> 05033.0003.00US00
 <140> 10/633,484
 <141> 2003-07-31
 <150> EP 02017313.4
 <151> 2002-08-01
 <160> 14
 <170> PatentIn version 3.3
 <210> 1
 <211> 745
 <212> PRT
 <213> Homo sapiens
 <220>
 <221> misc_feature
 <222> (1)..(745)
 <223> gamma-Catenin, Swissprot Accession Q86W21
 <400> 1

Met Glu Val Met Asn Leu Met Glu Gln Pro Ile Lys Val Thr Glu Trp
 1 5 10 15

Gln Gln Thr Tyr Thr Tyr Asp Ser Gly Ile His Ser Gly Ala Asn Thr
 20 25 30

Cys Val Pro Ser Val Ser Ser Lys Gly Ile Met Glu Glu Asp Glu Ala
 35 40 45

Cys Gly Arg Gln Tyr Thr Leu Lys Lys Thr Thr Thr Tyr Thr Gln Gly
 50 55 60

Val Pro Pro Ser Gln Gly Asp Leu Glu Tyr Gln Met Ser Thr Thr Ala
 65 70 75 80

Arg Ala Lys Arg Val Arg Glu Ala Met Cys Ser Gly Val Ser Gly Glu
 85 90 95

Asp Ser Ser Leu Leu Leu Ala Thr Gln Val Glu Gly Gln Ala Thr Asn
 100 105 110

Leu Gln Arg Leu Ala Glu Pro Ser Gln Leu Leu Lys Ser Ala Ile Val
 115 120 125

His Leu Ile Asn Tyr Gln Asp Asp Ala Glu Leu Ala Thr Arg Ala Leu
 Page 1

130

135

140

Pro Glu Leu Thr Lys Leu Leu Asn Asp Glu Asp Pro Val Val Val Thr
 145 150 155 160

Lys Ala Ala Met Ile Val Asn Gln Leu Ser Lys Lys Glu Ala Ser Arg
 165 170 175

Arg Ala Leu Met Gly Ser Pro Gln Leu Val Ala Ala Val Val Arg Thr
 180 185 190

Met Gln Asn Thr Ser Asp Leu Asp Thr Ala Arg Cys Thr Thr Ser Ile
 195 200 205

Leu His Asn Leu Ser His His Arg Glu Gly Leu Leu Ala Ile Phe Lys
 210 215 220

Ser Gly Gly Ile Pro Ala Leu Val Arg Met Leu Ser Ser Pro Val Glu
 225 230 235 240

Ser Val Leu Phe Tyr Ala Ile Thr Thr Leu His Asn Leu Leu Leu Tyr
 245 250 255

Gln Glu Gly Ala Lys Met Ala Val Arg Leu Ala Asp Gly Leu Gln Lys
 260 265 270

Met Val Pro Leu Leu Asn Lys Asn Asn Pro Lys Phe Leu Ala Ile Thr
 275 280 285

Thr Asp Cys Leu Gln Leu Leu Ala Tyr Gly Asn Gln Glu Ser Lys Leu
 290 295 300

Ile Ile Leu Ala Asn Gly Gly Pro Gln Ala Leu Val Gln Ile Met Arg
 305 310 315 320

Asn Tyr Ser Tyr Glu Lys Leu Leu Trp Thr Thr Ser Arg Val Leu Lys
 325 330 335

Val Leu Ser Val Cys Pro Ser Asn Lys Pro Ala Ile Val Glu Ala Gly
 340 345 350

Gly Met Gln Ala Leu Gly Lys His Leu Thr Ser Asn Ser Pro Arg Leu
 355 360 365

Val Gln Asn Cys Leu Trp Thr Leu Arg Asn Leu Ser Asp Val Ala Thr
 370 375 380

Lys Gln Glu Gly Leu Glu Ser Val Leu Lys Ile Leu Val Asn Gln Leu

385					390					395					400
Ser	Val	Asp	Asp	Val 405	Asn	Val	Leu	Thr	Cys 410	Ala	Thr	Gly	Thr	Leu 415	Ser
Asn	Leu	Thr	Cys 420	Asn	Asn	Ser	Lys	Asn 425	Lys	Thr	Leu	Val	Thr 430	Gln	Asn
Ser	Gly	Val 435	Glu	Ala	Leu	Ile	His 440	Ala	Ile	Leu	Arg	Ala 445	Gly	Asp	Lys
Asp	Asp 450	Ile	Thr	Glu	Pro	Ala 455	Val	Cys	Ala	Leu	Arg 460	His	Leu	Thr	Ser
Arg 465	His	Pro	Glu	Ala	Glu 470	Met	Ala	Gln	Asn	Ser 475	Val	Arg	Leu	Asn	Tyr 480
Gly	Ile	Pro	Ala	Ile 485	Val	Lys	Leu	Leu	Asn 490	Gln	Pro	Asn	Gln	Trp 495	Pro
Leu	Val	Lys	Ala 500	Thr	Ile	Gly	Leu	Ile 505	Arg	Asn	Leu	Ala	Leu 510	Cys	Pro
Ala	Asn	His 515	Ala	Pro	Leu	Gln	Glu 520	Ala	Ala	Val	Ile	Pro 525	Arg	Leu	Val
Gln	Leu 530	Leu	Val	Lys	Ala	His 535	Gln	Asp	Ala	Gln	Arg 540	His	Val	Ala	Ala
Gly 545	Thr	Gln	Gln	Pro	Tyr 550	Thr	Asp	Gly	Val	Arg 555	Met	Glu	Glu	Ile	Val 560
Glu	Gly	Cys	Thr	Gly 565	Ala	Leu	His	Ile	Leu 570	Ala	Arg	Asp	Pro	Met 575	Asn
Arg	Met	Glu	Ile 580	Phe	Arg	Leu	Asn	Thr 585	Ile	Pro	Leu	Phe	Val 590	Gln	Leu
Leu	Tyr	Ser 595	Ser	Val	Glu	Asn	Ile 600	Gln	Arg	Val	Ala	Ala 605	Gly	Val	Leu
Cys	Glu 610	Leu	Ala	Gln	Asp	Lys 615	Glu	Ala	Ala	Asp	Ala 620	Ile	Asp	Ala	Glu
Gly 625	Ala	Ser	Ala	Pro	Leu 630	Met	Glu	Leu	Leu	His 635	Ser	Arg	Asn	Glu	Gly 640
Thr	Ala	Thr	Tyr	Ala	Ala	Ala	Val	Leu	Phe	Arg	Ile	Ser	Glu	Asp	Lys

Page 3

645 650 655
 Asn Pro Asp Tyr Arg Lys Arg Val Ser Val Glu Leu Thr Asn Ser Leu
 660 665 670
 Phe Lys His Asp Pro Ala Ala Trp Glu Ala Ala Gln Ser Met Ile Pro
 675 680 685
 Ile Asn Glu Pro Tyr Gly Asp Asp Leu Asp Ala Thr Tyr Arg Pro Met
 690 695 700
 Tyr Ser Ser Asp Val Pro Leu Asp Pro Leu Glu Met His Met Asp Met
 705 710 715 720
 Asp Gly Asp Tyr Pro Ile Asp Thr Tyr Ser Asp Gly Leu Arg Pro Pro
 725 730 735
 Tyr Pro Thr Ala Asp His Met Leu Ala
 740 745

<210> 2
 <211> 314
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(314)
 <223> Ep-Cam, Swissprot Accession P16422

<400> 2

Met Ala Pro Pro Gln Val Leu Ala Phe Gly Leu Leu Leu Ala Ala Ala
 1 5 10 15
 Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu Asn Tyr
 20 25 30
 Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Gln Cys Gln Cys
 35 40 45
 Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ala
 50 55 60
 Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly Ser Lys Leu Gly Arg
 65 70 75 80
 Arg Ala Lys Pro Glu Gly Ala Leu Gln Asn Asn Asp Gly Leu Tyr Asp
 85 90 95

Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly
 100 105 110
 Thr Ser Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp
 115 120 125
 Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile
 130 135 140
 Ile Ile Glu Leu Lys His Lys Ala Arg Glu Lys Pro Tyr Asp Ser Lys
 145 150 155 160
 Ser Leu Arg Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu
 165 170 175
 Asp Pro Lys Phe Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr
 180 185 190
 Ile Asp Leu Val Gln Asn Ser Ser Gln Lys Thr Gln Asn Asp Val Asp
 195 200 205
 Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser
 210 215 220
 Leu Phe His Ser Lys Lys Met Asp Leu Thr Val Asn Gly Glu Gln Leu
 225 230 235 240
 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala
 245 250 255
 Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala Val Ile
 260 265 270
 Val Val Val Val Met Ala Val Val Ala Gly Ile Val Val Leu Val Ile
 275 280 285
 Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala Glu Ile Lys Glu
 290 295 300
 Met Gly Glu Met His Arg Glu Leu Asn Ala
 305 310

<210> 3
 <211> 882
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)..(882)
<223> E-Cadherin, Swissprot Accession P12830

<400> 3

Met Gly Pro Trp Ser Arg Ser Leu Ser Ala Leu Leu Leu Leu Leu Gln
1 5 10 15

Val Ser Ser Trp Leu Cys Gln Glu Pro Glu Pro Cys His Pro Gly Phe
20 25 30

Asp Ala Glu Ser Tyr Thr Phe Thr Val Pro Arg Arg His Leu Glu Arg
35 40 45

Gly Arg Val Leu Gly Arg Val Asn Phe Glu Asp Cys Thr Gly Arg Gln
50 55 60

Arg Thr Ala Tyr Phe Ser Leu Asp Thr Arg Phe Lys Val Gly Thr Asp
65 70 75 80

Gly Val Ile Thr Val Lys Arg Pro Leu Arg Phe His Asn Pro Gln Ile
85 90 95

His Phe Leu Val Tyr Ala Trp Asp Ser Thr Tyr Arg Lys Phe Ser Thr
100 105 110

Lys Val Thr Leu Asn Thr Val Gly His His His Arg Pro Pro Pro His
115 120 125

Gln Ala Ser Val Ser Gly Ile Gln Ala Glu Leu Leu Thr Phe Pro Asn
130 135 140

Ser Ser Pro Gly Leu Arg Arg Gln Lys Arg Asp Trp Val Ile Pro Pro
145 150 155 160

Ile Ser Cys Pro Glu Asn Glu Lys Gly Pro Phe Pro Lys Asn Leu Val
165 170 175

Gln Ile Lys Ser Asn Lys Asp Lys Glu Gly Lys Val Phe Tyr Ser Ile
180 185 190

Thr Gly Gln Gly Ala Asp Thr Pro Pro Val Gly Val Phe Ile Ile Glu
195 200 205

Arg Glu Thr Gly Trp Leu Lys Val Thr Glu Pro Leu Asp Arg Glu Arg
210 215 220

Ile Ala Thr Tyr Thr Leu Phe Ser His Ala Val Ser Ser Asn Gly Asn
225 230 235 240

Ala Val Glu Asp Pro Met Glu Ile Leu Ile Thr Val Thr Asp Gln Asn
 245 250 255

Asp Asn Lys Pro Glu Phe Thr Gln Glu Val Phe Lys Gly Ser Val Met
 260 265 270

Glu Gly Ala Leu Pro Gly Thr Ser Val Met Glu Val Thr Ala Thr Asp
 275 280 285

Ala Asp Asp Asp Val Asn Thr Tyr Asn Ala Ala Ile Ala Tyr Thr Ile
 290 295 300

Leu Ser Gln Asp Pro Glu Leu Pro Asp Lys Asn Met Phe Thr Ile Asn
 305 310 315 320

Arg Asn Thr Gly Val Ile Ser Val Val Thr Thr Gly Leu Asp Arg Glu
 325 330 335

Ser Phe Pro Thr Tyr Thr Leu Val Val Gln Ala Ala Asp Leu Gln Gly
 340 345 350

Glu Gly Leu Ser Thr Thr Ala Thr Ala Val Ile Thr Val Thr Asp Thr
 355 360 365

Asn Asp Asn Pro Pro Ile Phe Asn Pro Thr Thr Tyr Lys Gly Gln Val
 370 375 380

Pro Glu Asn Glu Ala Asn Val Val Ile Thr Thr Leu Lys Val Thr Asp
 385 390 395 400

Ala Asp Ala Pro Asn Thr Pro Ala Trp Glu Ala Val Tyr Thr Ile Leu
 405 410 415

Asn Asp Asp Gly Gly Gln Phe Val Val Thr Thr Asn Pro Val Asn Asn
 420 425 430

Asp Gly Ile Leu Lys Thr Ala Lys Gly Leu Asp Phe Glu Ala Lys Gln
 435 440 445

Gln Tyr Ile Leu His Val Ala Val Thr Asn Val Val Pro Phe Glu Val
 450 455 460

Ser Leu Thr Thr Ser Thr Ala Thr Val Thr Val Asp Val Leu Asp Val
 465 470 475 480

Asn Glu Ala Pro Ile Phe Val Pro Pro Glu Lys Arg Val Glu Val Ser
 485 490 495

Glu Asp Phe Gly Val Gly Gln Glu Ile Thr Ser Tyr Thr Ala Gln Glu
500 505 510

Pro Asp Thr Phe Met Glu Gln Lys Ile Thr Tyr Arg Ile Trp Arg Asp
515 520 525

Thr Ala Asn Trp Leu Glu Ile Asn Pro Asp Thr Gly Ala Ile Ser Thr
530 535 540

Arg Ala Glu Leu Asp Arg Glu Asp Phe Glu His Val Lys Asn Ser Thr
545 550 555 560

Tyr Thr Ala Leu Ile Ile Ala Thr Asp Asn Gly Ser Pro Val Ala Thr
565 570 575

Gly Thr Gly Thr Leu Leu Leu Ile Leu Ser Asp Val Asn Asp Asn Ala
580 585 590

Pro Ile Pro Glu Pro Arg Thr Ile Phe Phe Cys Glu Arg Asn Pro Lys
595 600 605

Pro Gln Val Ile Asn Ile Ile Asp Ala Asp Leu Pro Pro Asn Thr Ser
610 615 620

Pro Phe Thr Ala Glu Leu Thr His Gly Ala Ser Ala Asn Trp Thr Ile
625 630 635 640

Gln Tyr Asn Asp Pro Thr Gln Glu Ser Ile Ile Leu Lys Pro Lys Met
645 650 655

Ala Leu Glu Val Gly Asp Tyr Lys Ile Asn Leu Lys Leu Met Asp Asn
660 665 670

Gln Asn Lys Asp Gln Val Thr Thr Leu Glu Val Ser Val Cys Asp Cys
675 680 685

Glu Gly Ala Ala Gly Val Cys Arg Lys Ala Gln Pro Val Glu Ala Gly
690 695 700

Leu Gln Ile Pro Ala Ile Leu Gly Ile Leu Gly Gly Ile Leu Ala Leu
705 710 715 720

Leu Ile Leu Ile Leu Leu Leu Leu Phe Leu Arg Arg Arg Ala Val
725 730 735

Val Lys Glu Pro Leu Leu Pro Pro Glu Asp Asp Thr Arg Asp Asn Val
740 745 750

Tyr Tyr Tyr Asp Glu Glu Gly Gly Gly Glu Glu Asp Gln Asp Phe Asp
755 760 765

Leu Ser Gln Leu His Arg Gly Leu Asp Ala Arg Pro Glu Val Thr Arg
770 775 780

Asn Asp Val Ala Pro Thr Leu Met Ser Val Pro Arg Tyr Leu Pro Arg
785 790 795 800

Pro Ala Asn Pro Asp Glu Ile Gly Asn Phe Ile Asp Glu Asn Leu Lys
805 810 815

Ala Ala Asp Thr Asp Pro Thr Ala Pro Pro Tyr Asp Ser Leu Leu Val
820 825 830

Phe Asp Tyr Glu Gly Ser Gly Ser Glu Ala Ala Ser Leu Ser Ser Leu
835 840 845

Asn Ser Ser Glu Ser Asp Lys Asp Gln Asp Tyr Asp Tyr Leu Asn Glu
850 855 860

Trp Gly Asn Arg Phe Lys Lys Leu Ala Asp Met Tyr Gly Gly Gly Glu
865 870 875 880

Asp Asp

<210> 4
<211> 906
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(906)
<223> Alpha-1 Catenin, Swissprot Accession P35221

<400> 4

Met Thr Ala Val His Ala Gly Asn Ile Asn Phe Lys Trp Asp Pro Lys
1 5 10 15

Ser Leu Glu Ile Arg Thr Leu Ala Val Glu Arg Leu Leu Glu Pro Leu
20 25 30

Val Thr Gln Val Thr Thr Leu Val Asn Thr Asn Ser Lys Gly Pro Ser
35 40 45

Asn Lys Lys Arg Gly Arg Ser Lys Lys Ala His Val Leu Ala Ala Ser
50 55 60

Val Glu Gln Ala Thr Glu Asn Phe Leu Glu Lys Gly Asp Lys Ile Ala
65 70 75 80

Lys Glu Ser Gln Phe Leu Lys Glu Glu Leu Val Ala Ala Val Glu Asp
85 90 95

Val Arg Lys Gln Gly Asp Leu Met Lys Ala Ala Ala Gly Glu Phe Ala
100 105 110

Asp Asp Pro Cys Ser Ser Val Lys Arg Gly Asn Met Val Arg Ala Ala
115 120 125

Arg Ala Leu Leu Ser Ala Val Thr Arg Leu Leu Ile Leu Ala Asp Met
130 135 140

Ala Asp Val Tyr Lys Leu Leu Val Gln Leu Lys Val Val Glu Asp Gly
145 150 155 160

Ile Leu Lys Leu Arg Asn Ala Gly Asn Glu Gln Asp Leu Gly Ile Gln
165 170 175

Tyr Lys Ala Leu Lys Pro Glu Val Asp Lys Leu Asn Ile Met Ala Ala
180 185 190

Lys Arg Gln Gln Glu Leu Lys Asp Val Gly His Arg Asp Gln Met Ala
195 200 205

Ala Ala Arg Gly Ile Leu Gln Lys Asn Val Pro Ile Leu Tyr Thr Ala
210 215 220

Ser Gln Ala Cys Leu Gln His Pro Asp Val Ala Ala Tyr Lys Ala Asn
225 230 235 240

Arg Asp Leu Ile Tyr Lys Gln Leu Gln Gln Ala Val Thr Gly Ile Ser
245 250 255

Asn Ala Ala Gln Ala Thr Ala Ser Asp Asp Ala Ser Gln His Gln Gly
260 265 270

Gly Gly Gly Gly Glu Leu Ala Tyr Ala Leu Asn Asn Phe Asp Lys Gln
275 280 285

Ile Ile Val Asp Pro Leu Ser Phe Ser Glu Glu Arg Phe Arg Pro Ser
290 295 300

Leu Glu Glu Arg Leu Glu Ser Ile Ile Ser Gly Ala Ala Leu Met Ala
305 310 315 320

Asp Ser Ser Cys Thr Arg Asp Asp Arg Arg Glu Arg Ile Val Ala Glu
 325 330 335
 Cys Asn Ala Val Arg Gln Ala Leu Gln Asp Leu Leu Ser Glu Tyr Met
 340 345 350
 Gly Asn Ala Gly Arg Lys Glu Arg Ser Asp Ala Leu Asn Ser Ala Ile
 355 360 365
 Asp Lys Met Thr Lys Lys Thr Arg Asp Leu Arg Arg Gln Leu Arg Lys
 370 375 380
 Ala Val Met Asp His Val Ser Asp Ser Phe Leu Glu Thr Asn Val Pro
 385 390 395 400
 Leu Leu Val Leu Ile Glu Ala Ala Lys Asn Gly Asn Glu Lys Glu Val
 405 410 415
 Lys Glu Tyr Ala Gln Val Phe Arg Glu His Ala Asn Lys Leu Ile Glu
 420 425 430
 Val Ala Asn Leu Ala Cys Ser Ile Ser Asn Asn Glu Glu Gly Val Lys
 435 440 445
 Leu Val Arg Met Ser Ala Ser Gln Leu Glu Ala Leu Cys Pro Gln Val
 450 455 460
 Ile Asn Ala Ala Leu Ala Leu Ala Ala Lys Pro Gln Ser Lys Leu Ala
 465 470 475 480
 Gln Glu Asn Met Asp Leu Phe Lys Glu Gln Trp Glu Lys Gln Val Arg
 485 490 495
 Val Leu Thr Asp Ala Val Asp Asp Ile Thr Ser Ile Asp Asp Phe Leu
 500 505 510
 Ala Val Ser Glu Asn His Ile Leu Glu Asp Val Asn Lys Cys Val Ile
 515 520 525
 Ala Leu Gln Glu Lys Asp Val Asp Gly Leu Asp Arg Thr Ala Gly Ala
 530 535 540
 Ile Arg Gly Arg Ala Ala Arg Val Ile His Val Val Thr Ser Glu Met
 545 550 555 560
 Asp Asn Tyr Glu Pro Gly Val Tyr Thr Glu Lys Val Leu Glu Ala Thr
 565 570 575

Lys Leu Leu Ser Asn Thr Val Met Pro Arg Phe Thr Glu Gln Val Glu
580 585 590

Ala Ala Val Glu Ala Leu Ser Ser Asp Pro Ala Gln Pro Met Asp Glu
595 600 605

Asn Glu Phe Ile Asp Ala Ser Arg Leu Val Tyr Asp Gly Ile Arg Asp
610 615 620

Ile Arg Lys Ala Val Leu Met Ile Arg Thr Pro Glu Glu Leu Asp Asp
625 630 635 640

Ser Asp Phe Glu Thr Glu Asp Phe Asp Val Arg Ser Arg Thr Ser Val
645 650 655

Gln Thr Glu Asp Asp Gln Leu Ile Ala Gly Gln Ser Ala Arg Ala Ile
660 665 670

Met Ala Gln Leu Pro Gln Glu Gln Lys Ala Lys Ile Ala Glu Gln Val
675 680 685

Ala Ser Phe Gln Glu Glu Lys Ser Lys Leu Asp Ala Glu Val Ser Lys
690 695 700

Trp Asp Asp Ser Gly Asn Asp Ile Ile Val Leu Ala Lys Gln Met Cys
705 710 715 720

Met Ile Met Met Glu Met Thr Asp Phe Thr Arg Gly Lys Gly Pro Leu
725 730 735

Lys Asn Thr Ser Asp Val Ile Ser Ala Ala Lys Lys Ile Ala Glu Ala
740 745 750

Gly Ser Arg Met Asp Lys Leu Gly Arg Thr Ile Ala Asp His Cys Pro
755 760 765

Asp Ser Ala Cys Lys Gln Asp Leu Leu Ala Tyr Leu Gln Arg Ile Ala
770 775 780

Leu Tyr Cys His Gln Leu Asn Ile Cys Ser Lys Val Lys Ala Glu Val
785 790 795 800

Gln Asn Leu Gly Gly Glu Leu Val Val Ser Gly Val Asp Ser Ala Met
805 810 815

Ser Leu Ile Gln Ala Ala Lys Asn Leu Met Asn Ala Val Val Gln Thr
820 825 830

Val Lys Ala Ser Tyr Val Ala Ser Thr Lys Tyr Gln Lys Ser Gln Gly
835 840 845

Met Ala Ser Leu Asn Leu Pro Ala Val Ser Trp Lys Met Lys Ala Pro
850 855 860

Glu Lys Lys Pro Leu Val Lys Arg Glu Lys Gln Asp Glu Thr Gln Thr
865 870 875 880

Lys Ile Lys Arg Ala Ser Gln Lys Lys His Val Asn Pro Val Gln Ala
885 890 895

Leu Ser Glu Phe Lys Ala Met Asp Ser Ile
900 905

<210> 5
<211> 953
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(953)
<223> Alpha-2 Catenin, Swissprot Accession P26232

<400> 5

Met Thr Ser Ala Thr Ser Pro Ile Ile Leu Lys Trp Asp Pro Lys Ser
1 5 10 15

Leu Glu Ile Arg Thr Leu Thr Val Glu Arg Leu Leu Glu Pro Leu Val
20 25 30

Thr Gln Val Thr Thr Leu Val Asn Thr Ser Asn Lys Gly Pro Ser Gly
35 40 45

Lys Lys Lys Gly Arg Ser Lys Lys Ala His Val Leu Ala Ala Ser Val
50 55 60

Glu Gln Ala Thr Gln Asn Phe Leu Glu Lys Gly Glu Gln Ile Ala Lys
65 70 75 80

Glu Ser Gln Asp Leu Lys Glu Glu Leu Val Ala Ala Val Glu Asp Val
85 90 95

Arg Lys Gln Gly Glu Thr Met Arg Ile Ala Ser Ser Glu Phe Ala Asp
100 105 110

Asp Pro Cys Ser Ser Val Lys Arg Gly Thr Met Val Arg Ala Ala Arg
Page 13

115	120	125
Ala Leu Leu Ser Ala Val Thr Arg Leu Leu Ile Leu Ala Asp Met Ala 130 135 140		
Asp Val Met Arg Leu Leu Ser His Leu Lys Ile Val Glu Glu Ala Leu 145 150 155 160		
Glu Ala Val Lys Asn Ala Thr Asn Glu Gln Asp Leu Ala Asn Arg Phe 165 170 175		
Lys Glu Phe Gly Lys Glu Met Val Lys Leu Asn Tyr Val Ala Ala Arg 180 185 190		
Arg Gln Gln Glu Leu Lys Asp Pro His Cys Arg Asp Glu Met Ala Ala 195 200 205		
Ala Arg Gly Ala Leu Lys Lys Asn Ala Thr Met Leu Tyr Thr Ala Ser 210 215 220		
Gln Ala Phe Leu Arg His Pro Asp Val Ala Ala Thr Arg Ala Asn Arg 225 230 235 240		
Asp Tyr Val Phe Lys Gln Val Gln Glu Ala Ile Ala Gly Ile Ser Asn 245 250 255		
Ala Ala Gln Ala Thr Ser Pro Thr Asp Glu Ala Lys Gly His Thr Gly 260 265 270		
Ile Gly Glu Leu Ala Ala Ala Leu Asn Glu Phe Asp Asn Lys Ile Ile 275 280 285		
Leu Asp Pro Met Thr Phe Ser Glu Ala Arg Phe Arg Pro Ser Leu Glu 290 295 300		
Glu Arg Leu Glu Ser Ile Ile Ser Gly Ala Ala Leu Met Ala Asp Ser 305 310 315 320		
Ser Cys Thr Arg Asp Asp Arg Arg Glu Arg Ile Val Ala Glu Cys Asn 325 330 335		
Ala Val Arg Gln Ala Leu Gln Asp Leu Leu Ser Glu Tyr Met Asn Asn 340 345 350		
Thr Gly Arg Lys Glu Lys Gly Asp Pro Leu Asn Ile Ala Ile Asp Lys 355 360 365		
Met Thr Lys Lys Thr Arg Asp Leu Arg Arg Gln Leu Arg Lys Ala Val		

370

375

380

Met Asp His Ile Ser Asp Ser Phe Leu Glu Thr Asn Val Pro Leu Leu
 385 390 395 400

Val Leu Ile Glu Ala Ala Lys Ser Gly Asn Glu Lys Glu Val Lys Glu
 405 410 415

Tyr Ala Gln Val Phe Arg Glu His Ala Asn Lys Leu Val Glu Val Ala
 420 425 430

Asn Leu Ala Cys Ser Ile Ser Asn Asn Glu Glu Gly Val Lys Leu Val
 435 440 445

Arg Met Ala Ala Thr Gln Ile Asp Ser Leu Cys Pro Gln Val Ile Asn
 450 455 460

Ala Ala Leu Thr Leu Ala Ala Arg Pro Gln Ser Lys Val Ala Gln Asp
 465 470 475 480

Asn Met Asp Val Phe Lys Asp Gln Trp Glu Lys Gln Val Arg Val Leu
 485 490 495

Thr Glu Ala Val Asp Asp Ile Thr Ser Val Asp Asp Phe Leu Ser Val
 500 505 510

Ser Glu Asn His Ile Leu Glu Asp Val Asn Lys Cys Val Ile Ala Leu
 515 520 525

Gln Glu Gly Asp Val Asp Thr Leu Asp Arg Thr Ala Gly Ala Ile Arg
 530 535 540

Gly Arg Ala Ala Arg Val Ile His Ile Ile Asn Ala Glu Met Glu Asn
 545 550 555 560

Tyr Glu Ala Gly Val Tyr Thr Glu Lys Val Leu Glu Ala Thr Lys Leu
 565 570 575

Leu Ser Glu Thr Val Met Pro Arg Phe Ala Glu Gln Val Glu Val Ala
 580 585 590

Ile Glu Ala Leu Ser Ala Asn Val Pro Gln Pro Phe Glu Glu Asn Glu
 595 600 605

Phe Ile Asp Ala Ser Arg Leu Val Tyr Asp Gly Val Arg Asp Ile Arg
 610 615 620

Lys Ala Val Leu Met Ile Arg Thr Pro Glu Glu Leu Glu Asp Asp Ser
 Page 15

625		630		635		640
Asp Phe Glu Gln Glu	Asp Tyr Asp Val	Arg Ser Arg Thr Ser Val	Gln			
	645	650	655			
Thr Glu Asp Asp Gln Leu Ile Ala Gly	Gln Ser Ala Arg Ala Ile Met					
	660	665	670			
Ala Gln Leu Pro Gln Glu Glu Lys	Ala Lys Ile Ala Glu Gln Val Glu					
	675	680	685			
Ile Phe His Gln Glu Lys Ser	Lys Leu Asp Ala Glu Val Ala Lys Trp					
	690	695	700			
Asp Asp Ser Gly Asn Asp	Ile Ile Val Leu Ala Lys Gln Met Cys Met					
	705	710	715			720
Ile Met Met Glu Met Thr Asp Phe Thr	Arg Gly Lys Gly Pro Leu Lys					
	725	730	735			
Asn Thr Ser Asp Val Ile Asn Ala Ala	Lys Lys Ile Ala Glu Ala Gly					
	740	745	750			
Ser Arg Met Asp Lys Leu Ala Arg	Ala Val Ala Asp Gln Cys Pro Asp					
	755	760	765			
Ser Ala Cys Lys Gln Asp Leu Leu Ala Tyr Leu	Gln Arg Ile Ala Leu					
	770	775	780			
Tyr Cys His Gln Leu Asn Ile Cys Ser Lys	Val Lys Ala Glu Val Gln					
	785	790	795			800
Asn Leu Gly Gly Glu Leu Ile Val Ser	Gly Thr Gly Val Gln Ser Thr					
	805	810	815			
Phe Thr Thr Phe Tyr Glu Val Asp	Cys Asp Val Ile Asp Gly Gly Arg					
	820	825	830			
Ala Ser Gln Leu Ser Thr His Leu Pro Thr Cys	Ala Glu Gly Ala Pro					
	835	840	845			
Ile Gly Ser Gly Ser Ser Asp	Ser Ser Met Leu Asp Ser Ala Thr Ser					
	850	855	860			
Leu Ile Gln Ala Ala Lys Asn Leu Met Asn	Ala Val Val Leu Thr Val					
	865	870	875			880
Lys Ala Ser Tyr Val Ala Ser Thr Lys Tyr Gln	Lys Val Tyr Gly Thr					

885 890 895
 Ala Ala Val Asn Ser Pro Val Val Ser Trp Lys Met Lys Ala Pro Glu
 900 905 910
 Lys Lys Pro Leu Val Lys Arg Glu Lys Pro Glu Glu Phe Gln Thr Arg
 915 920 925
 Val Arg Arg Gly Ser Gln Lys Lys His Ile Ser Pro Val Gln Ala Leu
 930 935 940
 Ser Glu Phe Lys Ala Met Asp Ser Phe
 945 950

<210> 6
 <211> 781
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(781)
 <223> beta-Catenin, Swissprot Accession P35222

<400> 6

Met Ala Thr Gln Ala Asp Leu Met Glu Leu Asp Met Ala Met Glu Pro
 1 5 10 15
 Asp Arg Lys Ala Ala Val Ser His Trp Gln Gln Gln Ser Tyr Leu Asp
 20 25 30
 Ser Gly Ile His Ser Gly Ala Thr Thr Thr Ala Pro Ser Leu Ser Gly
 35 40 45
 Lys Gly Asn Pro Glu Glu Glu Asp Val Asp Thr Ser Gln Val Leu Tyr
 50 55 60
 Glu Trp Glu Gln Gly Phe Ser Gln Ser Phe Thr Gln Glu Gln Val Ala
 65 70 75 80
 Asp Ile Asp Gly Gln Tyr Ala Met Thr Arg Ala Gln Arg Val Arg Ala
 85 90 95
 Ala Met Phe Pro Glu Thr Leu Asp Glu Gly Met Gln Ile Pro Ser Thr
 100 105 110
 Gln Phe Asp Ala Ala His Pro Thr Asn Val Gln Arg Leu Ala Glu Pro
 115 120 125

Ser Gln Met Leu Lys His Ala Val Val Asn Leu Ile Asn Tyr Gln Asp
130 135 140

Asp Ala Glu Leu Ala Thr Arg Ala Ile Pro Glu Leu Thr Lys Leu Leu
145 150 155 160

Asn Asp Glu Asp Gln Val Val Val Asn Lys Ala Ala Val Met Val His
165 170 175

Gln Leu Ser Lys Lys Glu Ala Ser Arg His Ala Ile Met Arg Ser Pro
180 185 190

Gln Met Val Ser Ala Ile Val Arg Thr Met Gln Asn Thr Asn Asp Val
195 200 205

Glu Thr Ala Arg Cys Thr Ala Gly Thr Leu His Asn Leu Ser His His
210 215 220

Arg Glu Gly Leu Leu Ala Ile Phe Lys Ser Gly Gly Ile Pro Ala Leu
225 230 235 240

Val Lys Met Leu Gly Ser Pro Val Asp Ser Val Leu Phe Tyr Ala Ile
245 250 255

Thr Thr Leu His Asn Leu Leu Leu His Gln Glu Gly Ala Lys Met Ala
260 265 270

Val Arg Leu Ala Gly Gly Leu Gln Lys Met Val Ala Leu Leu Asn Lys
275 280 285

Thr Asn Val Lys Phe Leu Ala Ile Thr Thr Asp Cys Leu Gln Ile Leu
290 295 300

Ala Tyr Gly Asn Gln Glu Ser Lys Leu Ile Ile Leu Ala Ser Gly Gly
305 310 315 320

Pro Gln Ala Leu Val Asn Ile Met Arg Thr Tyr Thr Tyr Glu Lys Leu
325 330 335

Leu Trp Thr Thr Ser Arg Val Leu Lys Val Leu Ser Val Cys Ser Ser
340 345 350

Asn Lys Pro Ala Ile Val Glu Ala Gly Gly Met Gln Ala Leu Gly Leu
355 360 365

His Leu Thr Asp Pro Ser Gln Arg Leu Val Gln Asn Cys Leu Trp Thr
370 375 380

Leu Arg Asn Leu Ser Asp Ala Ala Thr Lys Gln Glu Gly Met Glu Gly
 385 390 395 400

Leu Leu Gly Thr Leu Val Gln Leu Leu Gly Ser Asp Asp Ile Asn Val
 405 410 415

Val Thr Cys Ala Ala Gly Ile Leu Ser Asn Leu Thr Cys Asn Asn Tyr
 420 425 430

Lys Asn Lys Met Met Val Cys Gln Val Gly Gly Ile Glu Ala Leu Val
 435 440 445

Arg Thr Val Leu Arg Ala Gly Asp Arg Glu Asp Ile Thr Glu Pro Ala
 450 455 460

Ile Cys Ala Leu Arg His Leu Thr Ser Arg His Gln Glu Ala Glu Met
 465 470 475 480

Ala Gln Asn Ala Val Arg Leu His Tyr Gly Leu Pro Val Val Val Lys
 485 490 495

Leu Leu His Pro Pro Ser His Trp Pro Leu Ile Lys Ala Thr Val Gly
 500 505 510

Leu Ile Arg Asn Leu Ala Leu Cys Pro Ala Asn His Ala Pro Leu Arg
 515 520 525

Glu Gln Gly Ala Ile Pro Arg Leu Val Gln Leu Leu Val Arg Ala His
 530 535 540

Gln Asp Thr Gln Arg Arg Thr Ser Met Gly Gly Thr Gln Gln Gln Phe
 545 550 555 560

Val Glu Gly Val Arg Met Glu Glu Ile Val Glu Gly Cys Thr Gly Ala
 565 570 575

Leu His Ile Leu Ala Arg Asp Val His Asn Arg Ile Val Ile Arg Gly
 580 585 590

Leu Asn Thr Ile Pro Leu Phe Val Gln Leu Leu Tyr Ser Pro Ile Glu
 595 600 605

Asn Ile Gln Arg Val Ala Ala Gly Val Leu Cys Glu Leu Ala Gln Asp
 610 615 620

Lys Glu Ala Ala Glu Ala Ile Glu Ala Glu Gly Ala Thr Ala Pro Leu
 625 630 635 640

Thr Glu Leu Leu His Ser Arg Asn Glu Gly Val Ala Thr Tyr Ala Ala
645 650 655

Ala Val Leu Phe Arg Met Ser Glu Asp Lys Pro Gln Asp Tyr Lys Lys
660 665 670

Arg Leu Ser Val Glu Leu Thr Ser Ser Leu Phe Arg Thr Glu Pro Met
675 680 685

Ala Trp Asn Glu Thr Ala Asp Leu Gly Leu Asp Ile Gly Ala Gln Gly
690 695 700

Glu Pro Leu Gly Tyr Arg Gln Asp Asp Pro Ser Tyr Arg Ser Phe His
705 710 715 720

Ser Gly Gly Tyr Gly Gln Asp Ala Leu Gly Met Asp Pro Met Met Glu
725 730 735

His Glu Met Gly Gly His His Pro Gly Ala Asp Tyr Pro Val Asp Gly
740 745 750

Leu Pro Asp Leu Gly His Ala Gln Asp Leu Met Asp Gly Leu Pro Pro
755 760 765

Gly Asp Ser Asn Gln Leu Ala Trp Phe Asp Thr Asp Leu
770 775 780

<210> 7
<211> 585
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(585)
<223> Involucrin, Swissprot Accession P07476

<400> 7

Met Ser Gln Gln His Thr Leu Pro Val Thr Leu Ser Pro Ala Leu Ser
1 5 10 15

Gln Glu Leu Leu Lys Thr Val Pro Pro Pro Val Asn Thr His Gln Glu
20 25 30

Gln Met Lys Gln Pro Thr Pro Leu Pro Pro Pro Cys Gln Lys Val Pro
35 40 45

Val Glu Leu Pro Val Glu Val Pro Ser Lys Gln Glu Glu Lys His Met
50 55 60

Thr Ala Val Lys Gly Leu Pro Glu Gln Glu Cys Glu Gln Gln Gln Lys
 65 70 75 80
 Glu Pro Gln Glu Gln Glu Leu Gln Gln Gln His Trp Glu Gln His Glu
 85 90 95
 Glu Tyr Gln Lys Ala Glu Asn Pro Glu Gln Gln Leu Lys Gln Glu Lys
 100 105 110
 Thr Gln Arg Asp Gln Gln Leu Asn Lys Gln Leu Glu Glu Glu Lys Lys
 115 120 125
 Leu Leu Asp Gln Gln Leu Asp Gln Glu Leu Val Lys Arg Asp Glu Gln
 130 135 140
 Leu Gly Met Lys Lys Glu Gln Leu Leu Glu Leu Pro Glu Gln Gln Glu
 145 150 155 160
 Gly His Leu Lys His Leu Glu Gln Gln Glu Gly Gln Leu Lys His Pro
 165 170 175
 Glu Gln Gln Glu Gly Gln Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln
 180 185 190
 Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln Leu Glu Leu Pro Glu Gln
 195 200 205
 Gln Glu Gly Gln Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln Leu Glu
 210 215 220
 Leu Pro Gln Gln Gln Glu Gly Gln Leu Glu Leu Ser Glu Gln Gln Glu
 225 230 235 240
 Gly Gln Leu Glu Leu Ser Glu Gln Gln Glu Gly Gln Leu Glu Leu Ser
 245 250 255
 Glu Gln Gln Glu Gly Gln Leu Lys His Leu Glu His Gln Glu Gly Gln
 260 265 270
 Leu Glu Val Pro Glu Glu Gln Met Gly Gln Leu Lys Tyr Leu Glu Gln
 275 280 285
 Gln Glu Gly Gln Leu Lys His Leu Asp Gln Gln Glu Lys Gln Pro Glu
 290 295 300
 Leu Pro Glu Gln Gln Met Gly Gln Leu Lys His Leu Glu Gln Gln Glu
 305 310 315 320

Gly Gln Pro Lys His Leu Glu Gln Gln Glu Gly Gln Leu Glu Gln Leu
325 330 335

Glu Glu Gln Glu Gly Gln Leu Lys His Leu Glu Gln Gln Glu Gly Gln
340 345 350

Leu Glu His Leu Glu His Gln Glu Gly Gln Leu Gly Leu Pro Glu Gln
355 360 365

Gln Val Leu Gln Leu Lys Gln Leu Glu Lys Gln Gln Gly Gln Pro Lys
370 375 380

His Leu Glu Glu Glu Glu Gly Gln Leu Lys His Leu Val Gln Gln Glu
385 390 395 400

Gly Gln Leu Lys His Leu Val Gln Gln Glu Gly Gln Leu Glu Gln Gln
405 410 415

Glu Arg Gln Val Glu His Leu Glu Gln Gln Val Gly Gln Leu Lys His
420 425 430

Leu Glu Glu Gln Glu Gly Gln Leu Lys His Leu Glu Gln Gln Gln Gly
435 440 445

Gln Leu Glu Val Pro Glu Gln Gln Val Gly Gln Pro Lys Asn Leu Glu
450 455 460

Gln Glu Glu Lys Gln Leu Glu Leu Pro Glu Gln Gln Glu Gly Gln Val
465 470 475 480

Lys His Leu Glu Lys Gln Glu Ala Gln Leu Glu Leu Pro Glu Gln Gln
485 490 495

Val Gly Gln Pro Lys His Leu Glu Gln Gln Glu Lys His Leu Glu His
500 505 510

Pro Glu Gln Gln Asp Gly Gln Leu Lys His Leu Glu Gln Gln Glu Gly
515 520 525

Gln Leu Lys Asp Leu Glu Gln Gln Lys Gly Gln Leu Glu Gln Pro Val
530 535 540

Phe Ala Pro Ala Pro Gly Gln Val Gln Asp Ile Gln Pro Ala Leu Pro
545 550 555 560

Thr Lys Gly Glu Val Leu Leu Pro Val Glu His Gln Gln Gln Lys Gln
565 570 575

Glu Val Gln Trp Pro Pro Lys His Lys
580 585

<210> 8
<211> 483
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(483)
<223> CK8, Swissprot Accession NP_002264

<400> 8

Met Ser Ile Arg Val Thr Gln Lys Ser Tyr Lys Val Ser Thr Ser Gly
1 5 10 15

Pro Arg Ala Phe Ser Ser Arg Ser Tyr Thr Ser Gly Pro Gly Ser Arg
20 25 30

Ile Ser Ser Ser Ser Phe Ser Arg Val Gly Ser Ser Asn Phe Arg Gly
35 40 45

Gly Leu Gly Gly Gly Tyr Gly Gly Ala Ser Gly Met Gly Gly Ile Thr
50 55 60

Ala Val Thr Val Asn Gln Ser Leu Leu Ser Pro Leu Val Leu Glu Val
65 70 75 80

Asp Pro Asn Ile Gln Ala Val Arg Thr Gln Glu Lys Glu Gln Ile Lys
85 90 95

Thr Leu Asn Asn Lys Phe Ala Ser Phe Ile Asp Lys Val Arg Phe Leu
100 105 110

Glu Gln Gln Asn Lys Met Leu Glu Thr Lys Trp Ser Leu Leu Gln Gln
115 120 125

Gln Lys Thr Ala Arg Ser Asn Met Asp Asn Met Phe Glu Ser Tyr Ile
130 135 140

Asn Asn Leu Arg Arg Gln Leu Glu Thr Leu Gly Gln Glu Lys Leu Lys
145 150 155 160

Leu Glu Ala Glu Leu Gly Asn Met Gln Gly Leu Val Glu Asp Phe Lys
165 170 175

Asn Lys Tyr Glu Asp Glu Ile Asn Lys Arg Thr Glu Met Glu Asn Glu
180 185 190

Phe Val Leu Ile Lys Lys Asp Val Asp Glu Ala Tyr Met Asn Lys Val
 195 200 205

Glu Leu Glu Ser Arg Leu Glu Gly Leu Thr Asp Glu Ile Asn Phe Leu
 210 215 220

Arg Gln Leu Tyr Glu Glu Glu Ile Arg Glu Leu Gln Ser Gln Ile Ser
 225 230 235 240

Asp Thr Ser Val Val Leu Ser Met Asp Asn Ser Arg Ser Leu Asp Met
 245 250 255

Asp Ser Ile Ile Ala Glu Val Lys Ala Gln Tyr Glu Asp Ile Ala Asn
 260 265 270

Arg Ser Arg Ala Glu Ala Glu Ser Met Tyr Gln Ile Lys Tyr Glu Glu
 275 280 285

Leu Gln Ser Leu Ala Gly Lys His Gly Asp Asp Leu Arg Arg Thr Lys
 290 295 300

Thr Glu Ile Ser Glu Met Asn Arg Asn Ile Ser Arg Leu Gln Ala Glu
 305 310 315 320

Ile Glu Gly Leu Lys Gly Gln Arg Ala Ser Leu Glu Ala Ala Ile Ala
 325 330 335

Asp Ala Glu Gln Arg Gly Glu Leu Ala Ile Lys Asp Ala Asn Ala Lys
 340 345 350

Leu Ser Glu Leu Glu Ala Ala Leu Gln Arg Ala Lys Gln Asp Met Ala
 355 360 365

Arg Gln Leu Arg Glu Tyr Gln Glu Leu Met Asn Val Lys Leu Ala Leu
 370 375 380

Asp Ile Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Ser
 385 390 395 400

Arg Leu Glu Ser Gly Met Gln Asn Met Ser Ile His Thr Lys Thr Thr
 405 410 415

Ser Gly Tyr Ala Gly Gly Leu Ser Ser Ala Tyr Gly Gly Leu Thr Ser
 420 425 430

Pro Gly Leu Ser Tyr Ser Leu Gly Ser Ser Phe Gly Ser Gly Ala Gly
 435 440 445

Ser Ser Ser Phe Ser Arg Thr Ser Ser Ser Arg Ala Val Val Val Lys
450 455 460

Lys Ile Glu Thr Arg Asp Gly Lys Leu Val Ser Glu Ser Ser Asp Val
465 470 475 480

Leu Pro Lys

<210> 9
<211> 430
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(423)
<223> CK18, Swissprot Accession NP_954657

<400> 9

Met Ser Phe Thr Thr Arg Ser Thr Phe Ser Thr Asn Tyr Arg Ser Leu
1 5 10 15

Gly Ser Val Gln Ala Pro Ser Tyr Gly Ala Arg Pro Val Ser Ser Ala
20 25 30

Ala Ser Val Tyr Ala Gly Ala Gly Gly Ser Gly Ser Arg Ile Ser Val
35 40 45

Ser Arg Ser Thr Ser Phe Arg Gly Gly Met Gly Ser Gly Gly Leu Ala
50 55 60

Thr Gly Ile Ala Gly Gly Leu Ala Gly Met Gly Gly Ile Gln Asn Glu
65 70 75 80

Lys Glu Thr Met Gln Ser Leu Asn Asp Arg Leu Ala Ser Tyr Leu Asp
85 90 95

Arg Val Arg Ser Leu Glu Thr Glu Asn Arg Arg Leu Glu Ser Lys Ile
100 105 110

Arg Glu His Leu Glu Lys Lys Gly Pro Gln Val Arg Asp Trp Ser His
115 120 125

Tyr Phe Lys Ile Ile Glu Asp Leu Arg Ala Gln Ile Phe Ala Asn Thr
130 135 140

Val Asp Asn Ala Arg Ile Val Leu Gln Ile Asp Asn Ala Arg Leu Ala
Page 25

145					150					155					160				
Ala	Asp	Asp	Phe	Arg 165	Val	Lys	Tyr	Glu	Thr 170	Glu	Leu	Ala	Met	Arg 175	Gln				
Ser	Val	Glu	Asn 180	Asp	Ile	His	Gly	Leu 185	Arg	Lys	Val	Ile	Asp 190	Asp	Thr				
Asn	Ile	Thr 195	Arg	Leu	Gln	Leu	Glu 200	Thr	Glu	Ile	Glu	Ala 205	Leu	Lys	Glu				
Glu	Leu 210	Leu	Phe	Met	Lys	Lys 215	Asn	His	Glu	Glu	Glu 220	Val	Lys	Gly	Leu				
Gln 225	Ala	Gln	Ile	Ala	Ser 230	Ser	Gly	Leu	Thr	Val 235	Glu	Val	Asp	Ala	Pro 240				
Lys	Ser	Gln	Asp	Leu 245	Ala	Lys	Ile	Met	Ala 250	Asp	Ile	Arg	Ala	Gln 255	Tyr				
Asp	Glu	Leu	Ala 260	Arg	Lys	Asn	Arg	Glu 265	Glu	Leu	Asp	Lys	Tyr 270	Trp	Ser				
Gln	Gln	Ile 275	Glu	Glu	Ser	Thr	Thr 280	Val	Val	Thr	Thr	Gln 285	Ser	Ala	Glu				
Val	Gly 290	Ala	Ala	Glu	Thr	Thr 295	Leu	Thr	Glu	Leu	Arg 300	Arg	Thr	Val	Gln				
Ser 305	Leu	Glu	Ile	Asp	Leu 310	Asp	Ser	Met	Arg	Asn 315	Leu	Lys	Ala	Ser	Leu 320				
Glu	Asn	Ser	Leu	Arg 325	Glu	Val	Glu	Ala	Arg 330	Tyr	Ala	Leu	Gln	Met 335	Glu				
Gln	Leu	Asn	Gly 340	Ile	Leu	Leu	His	Leu 345	Glu	Ser	Glu	Leu	Ala 350	Gln	Thr				
Arg	Ala	Glu 355	Gly	Gln	Arg	Gln	Ala 360	Gln	Glu	Tyr	Glu	Ala 365	Leu	Leu	Asn				
Ile	Lys 370	Val	Lys	Leu	Glu	Ala 375	Glu	Ile	Ala	Thr	Tyr 380	Arg	Arg	Leu	Leu				
Glu 385	Asp	Gly	Glu	Asp	Phe 390	Asn	Leu	Gly	Asp	Ala 395	Leu	Asp	Ser	Ser	Asn 400				
Ser	Met	Gln	Thr	Ile	Gln	Lys	Thr	Thr	Thr	Arg	Arg	Ile	Val	Asp	Gly				

405

410

415

Lys Val Val Ser Glu Thr Asn Asp Thr Lys Val Leu Arg His
 420 425 430

<210> 10
 <211> 593
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(584)
 <223> CK10, Swissprot Accession P13645

<400> 10

Met Ser Val Arg Tyr Ser Ser Ser Lys His Tyr Ser Ser Ser Arg Ser
 1 5 10 15

Gly Gly Gly Gly Gly Gly Gly Gly Cys Gly Gly Gly Gly Gly Val Ser
 20 25 30

Ser Leu Arg Ile Ser Ser Ser Lys Gly Ser Leu Gly Gly Gly Phe Ser
 35 40 45

Ser Gly Gly Phe Ser Gly Gly Ser Phe Ser Arg Gly Ser Ser Gly Gly
 50 55 60

Gly Cys Phe Gly Gly Ser Ser Gly Gly Tyr Gly Gly Leu Gly Gly Phe
 65 70 75 80

Gly Gly Gly Ser Phe Arg Gly Ser Tyr Gly Ser Ser Ser Phe Gly Gly
 85 90 95

Ser Tyr Gly Gly Ser Phe Gly Gly Gly Ser Phe Gly Gly Gly Ser Phe
 100 105 110

Gly Gly Gly Ser Phe Gly Gly Gly Gly Phe Gly Gly Gly Gly Phe Gly
 115 120 125

Gly Gly Phe Gly Gly Gly Phe Gly Gly Asp Gly Gly Leu Leu Ser Gly
 130 135 140

Asn Glu Lys Val Thr Met Gln Asn Leu Asn Asp Arg Leu Ala Ser Tyr
 145 150 155 160

Leu Asp Lys Val Arg Ala Leu Glu Glu Ser Asn Tyr Glu Leu Glu Gly
 165 170 175

Lys Ile Lys Glu Trp Tyr Glu Lys His Gly Asn Ser His Gln Gly Glu
 180 185 190
 Pro Arg Asp Tyr Ser Lys Tyr Tyr Lys Thr Ile Asp Asp Leu Lys Asn
 195 200 205
 Gln Ile Leu Asn Leu Thr Thr Asp Asn Ala Asn Ile Leu Leu Gln Ile
 210 215 220
 Asp Asn Ala Arg Leu Ala Ala Asp Asp Phe Arg Leu Lys Tyr Glu Asn
 225 230 235 240
 Glu Val Ala Leu Arg Gln Ser Val Glu Ala Asp Ile Asn Gly Leu Arg
 245 250 255
 Arg Val Leu Asp Glu Leu Thr Leu Thr Lys Ala Asp Leu Glu Met Gln
 260 265 270
 Ile Glu Ser Leu Thr Glu Glu Leu Ala Tyr Leu Lys Lys Asn His Glu
 275 280 285
 Glu Glu Met Lys Asp Leu Arg Asn Val Ser Thr Gly Asp Val Asn Val
 290 295 300
 Glu Met Asn Ala Ala Pro Gly Val Asp Leu Thr Gln Leu Leu Asn Asn
 305 310 315 320
 Met Arg Ser Gln Tyr Glu Gln Leu Ala Glu Gln Asn Arg Lys Asp Ala
 325 330 335
 Glu Ala Trp Phe Asn Glu Lys Ser Lys Glu Leu Thr Thr Glu Ile Asp
 340 345 350
 Asn Asn Ile Glu Gln Ile Ser Ser Tyr Lys Ser Glu Ile Thr Glu Leu
 355 360 365
 Arg Arg Asn Val Gln Ala Leu Glu Ile Glu Leu Gln Ser Gln Leu Ala
 370 375 380
 Leu Lys Gln Ser Leu Glu Ala Ser Leu Ala Glu Thr Glu Gly Arg Tyr
 385 390 395 400
 Cys Val Gln Leu Ser Gln Ile Gln Ala Gln Ile Ser Ala Leu Glu Glu
 405 410 415
 Gln Leu Gln Gln Ile Arg Ala Glu Thr Glu Cys Gln Asn Thr Glu Tyr
 420 425 430

Gln Gln Leu Leu Asp Ile Lys Ile Arg Leu Glu Asn Glu Ile Gln Thr
435 440 445

Tyr Arg Ser Leu Leu Glu Gly Glu Gly Ser Ser Gly Gly Gly Gly Arg
450 455 460

Gly Gly Gly Ser Phe Gly Gly Gly Tyr Gly Gly Gly Ser Ser Gly Gly
465 470 475 480

Gly Ser Ser Gly Gly Tyr Gly Gly Gly His Gly Gly Ser Ser Gly
485 490 495

Gly Gly Tyr Gly Gly Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Gly
500 505 510

Tyr Gly Gly Gly Ser Ser Ser Gly Gly His Gly Gly Gly Ser Ser Ser
515 520 525

Gly Gly His Gly Gly Ser Ser Ser Gly Gly Tyr Gly Gly Gly Ser Ser
530 535 540

Gly Gly Gly Gly Gly Gly Tyr Gly Gly Gly Ser Ser Gly Gly Gly Ser
545 550 555 560

Ser Ser Gly Gly Gly Tyr Gly Gly Gly Ser Ser Ser Gly Gly His Lys
565 570 575

Ser Ser Ser Ser Gly Ser Val Gly Glu Ser Ser Ser Lys Gly Pro Arg
580 585 590

Tyr

<210> 11
<211> 458
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(458)
<223> CK13, Isoform a, Swissprot Accession NP_705694

<400> 11

Met Ser Leu Arg Leu Gln Ser Ser Ser Ala Ser Tyr Gly Gly Gly Phe
1 5 10 15

Gly Gly Gly Ser Cys Gln Leu Gly Gly Gly Arg Gly Val Ser Thr Cys
20 25 30

Ser Thr Arg Phe Val Ser Gly Gly Ser Ala Gly Gly Tyr Gly Gly Gly
 35 40 45
 Val Ser Cys Gly Phe Gly Gly Gly Ala Gly Ser Gly Phe Gly Gly Gly
 50 55 60
 Tyr Gly Gly Gly Leu Gly Gly Gly Tyr Gly Gly Gly Leu Gly Gly Gly
 65 70 75 80
 Phe Gly Gly Gly Phe Ala Gly Gly Phe Val Asp Phe Gly Ala Cys Asp
 85 90 95
 Gly Gly Leu Leu Thr Gly Asn Glu Lys Ile Thr Met Gln Asn Leu Asn
 100 105 110
 Asp Arg Leu Ala Ser Tyr Leu Glu Lys Val Arg Ala Leu Glu Glu Ala
 115 120 125
 Asn Ala Asp Leu Glu Val Lys Ile Arg Asp Trp His Leu Lys Gln Ser
 130 135 140
 Pro Ala Ser Pro Glu Arg Asp Tyr Ser Pro Tyr Tyr Lys Thr Ile Glu
 145 150 155 160
 Glu Leu Arg Asp Lys Ile Leu Thr Ala Thr Ile Glu Asn Asn Arg Val
 165 170 175
 Ile Leu Glu Ile Asp Asn Ala Arg Leu Ala Ala Asp Asp Phe Arg Leu
 180 185 190
 Lys Tyr Glu Asn Glu Leu Ala Leu Arg Gln Ser Val Glu Ala Asp Ile
 195 200 205
 Asn Gly Leu Arg Arg Val Leu Asp Glu Leu Thr Leu Ser Lys Thr Asp
 210 215 220
 Leu Glu Met Gln Ile Glu Ser Leu Asn Glu Glu Leu Ala Tyr Met Lys
 225 230 235 240
 Lys Asn His Glu Glu Glu Met Lys Glu Phe Ser Asn Gln Val Val Gly
 245 250 255
 Gln Val Asn Val Glu Met Asp Ala Thr Pro Gly Ile Asp Leu Thr Arg
 260 265 270
 Val Leu Ala Glu Met Arg Glu Gln Tyr Glu Ala Met Ala Glu Arg Asn
 275 280 285

Arg Arg Asp Ala Glu Glu Trp Phe His Ala Lys Ser Ala Glu Leu Asn
 290 295 300
 Lys Glu Val Ser Thr Asn Thr Ala Met Ile Gln Thr Ser Lys Thr Glu
 305 310 315 320
 Ile Thr Glu Leu Arg Arg Thr Leu Gln Gly Leu Glu Ile Glu Leu Gln
 325 330 335
 Ser Gln Leu Ser Met Lys Ala Gly Leu Glu Asn Thr Val Ala Glu Thr
 340 345 350
 Glu Cys Arg Tyr Ala Leu Gln Leu Gln Gln Ile Gln Gly Leu Ile Ser
 355 360 365
 Ser Ile Glu Ala Gln Leu Ser Glu Leu Arg Ser Glu Met Glu Cys Gln
 370 375 380
 Asn Gln Glu Tyr Lys Met Leu Leu Asp Ile Lys Thr Arg Leu Glu Gln
 385 390 395 400
 Glu Ile Ala Thr Tyr Arg Ser Leu Leu Glu Gly Gln Asp Ala Lys Met
 405 410 415
 Ile Gly Phe Pro Ser Ser Ala Gly Ser Val Ser Pro Arg Ser Thr Ser
 420 425 430
 Val Thr Thr Thr Ser Ser Ala Ser Val Thr Thr Thr Ser Asn Ala Ser
 435 440 445
 Gly Arg Arg Thr Ser Asp Val Arg Arg Pro
 450 455

<210> 12
 <211> 968
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(968)
 <223> p120, Swissprot Accession 060716

<400> 12

Met Asp Asp Ser Glu Val Glu Ser Thr Ala Ser Ile Leu Ala Ser Val
 1 5 10 15
 Lys Glu Gln Glu Ala Gln Phe Glu Lys Leu Thr Arg Ala Leu Glu Glu
 20 25 30

Glu Arg Arg His Val Ser Ala Gln Leu Glu Arg Val Arg Val Ser Pro
35 40 45

Gln Asp Ala Asn Pro Leu Met Ala Asn Gly Thr Leu Thr Arg Arg His
50 55 60

Gln Asn Gly Arg Phe Val Gly Asp Ala Asp Leu Glu Arg Gln Lys Phe
65 70 75 80

Ser Asp Leu Lys Leu Asn Gly Pro Gln Asp His Ser His Leu Leu Tyr
85 90 95

Ser Thr Ile Pro Arg Met Gln Glu Pro Gly Gln Ile Val Glu Thr Tyr
100 105 110

Thr Glu Glu Asp Pro Glu Gly Ala Met Ser Val Val Ser Val Glu Thr
115 120 125

Ser Asp Asp Gly Thr Thr Arg Arg Thr Glu Thr Thr Val Lys Lys Val
130 135 140

Val Lys Thr Val Thr Thr Arg Thr Val Gln Pro Val Ala Met Gly Pro
145 150 155 160

Asp Gly Leu Pro Val Asp Ala Ser Ser Val Ser Asn Asn Tyr Ile Gln
165 170 175

Thr Leu Gly Arg Asp Phe Arg Lys Asn Gly Asn Gly Gly Pro Gly Pro
180 185 190

Tyr Val Gly Gln Ala Gly Thr Ala Thr Leu Pro Arg Asn Phe His Tyr
195 200 205

Pro Pro Asp Gly Tyr Ser Arg His Tyr Glu Asp Gly Tyr Pro Gly Gly
210 215 220

Ser Asp Asn Tyr Gly Ser Leu Ser Arg Val Thr Arg Ile Glu Glu Arg
225 230 235 240

Tyr Arg Pro Ser Met Glu Gly Tyr Arg Ala Pro Ser Arg Gln Asp Val
245 250 255

Tyr Gly Pro Gln Pro Gln Val Arg Val Gly Gly Ser Ser Val Asp Leu
260 265 270

His Arg Phe His Pro Glu Pro Tyr Gly Leu Glu Asp Asp Gln Arg Ser
275 280 285

Met Gly Tyr Asp Asp Leu Asp Tyr Gly Met Met Ser Asp Tyr Gly Thr
 290 295 300
 Ala Arg Arg Thr Gly Thr Pro Ser Asp Pro Arg Arg Arg Leu Arg Ser
 305 310 315 320
 Tyr Glu Asp Met Ile Gly Glu Glu Val Pro Ser Asp Gln Tyr Tyr Trp
 325 330 335
 Ala Pro Leu Ala Gln His Glu Arg Gly Ser Leu Ala Ser Leu Asp Ser
 340 345 350
 Leu Arg Lys Gly Gly Pro Pro Pro Pro Asn Trp Arg Gln Pro Glu Leu
 355 360 365
 Pro Glu Val Ile Ala Met Leu Gly Phe Arg Leu Asp Ala Val Lys Ser
 370 375 380
 Asn Ala Ala Ala Tyr Leu Gln His Leu Cys Tyr Arg Asn Asp Lys Val
 385 390 395 400
 Lys Thr Asp Val Arg Lys Leu Lys Gly Ile Pro Val Leu Val Gly Leu
 405 410 415
 Leu Asp His Pro Lys Lys Glu Val His Leu Gly Ala Cys Gly Ala Leu
 420 425 430
 Lys Asn Ile Ser Phe Gly Arg Asp Gln Asp Asn Lys Ile Ala Ile Lys
 435 440 445
 Asn Cys Asp Gly Val Pro Ala Leu Val Arg Leu Leu Arg Lys Ala Arg
 450 455 460
 Asp Met Asp Leu Thr Glu Val Ile Thr Gly Thr Leu Trp Asn Leu Ser
 465 470 475 480
 Ser His Asp Ser Ile Lys Met Glu Ile Val Asp His Ala Leu His Ala
 485 490 495
 Leu Thr Asp Glu Val Ile Ile Pro His Ser Gly Trp Glu Arg Glu Pro
 500 505 510
 Asn Glu Asp Cys Lys Pro Arg His Ile Glu Trp Glu Ser Val Leu Thr
 515 520 525
 Asn Thr Ala Gly Cys Leu Arg Asn Val Ser Ser Glu Arg Ser Glu Ala
 530 535 540

Arg Arg Lys Leu Arg Glu Cys Asp Gly Leu Val Asp Ala Leu Ile Phe
 545 550 555 560
 Ile Val Gln Ala Glu Ile Gly Gln Lys Asp Ser Asp Ser Lys Leu Val
 565 570 575
 Glu Asn Cys Val Cys Leu Leu Arg Asn Leu Ser Tyr Gln Val His Arg
 580 585 590
 Glu Ile Pro Gln Ala Glu Arg Tyr Gln Glu Ala Ala Pro Asn Val Ala
 595 600 605
 Asn Asn Thr Gly Pro His Ala Ala Ser Cys Phe Gly Ala Lys Lys Gly
 610 615 620
 Lys Asp Glu Trp Phe Ser Arg Gly Lys Lys Pro Ile Glu Asp Pro Ala
 625 630 635 640
 Asn Asp Thr Val Asp Phe Pro Lys Arg Thr Ser Pro Ala Arg Gly Tyr
 645 650 655
 Glu Leu Leu Phe Gln Pro Glu Val Val Arg Ile Tyr Ile Ser Leu Leu
 660 665 670
 Lys Glu Ser Lys Thr Pro Ala Ile Leu Glu Ala Ser Ala Gly Ala Ile
 675 680 685
 Gln Asn Leu Cys Ala Gly Arg Trp Thr Tyr Gly Arg Tyr Ile Arg Ser
 690 695 700
 Ala Leu Arg Gln Glu Lys Ala Leu Ser Ala Ile Ala Asp Leu Leu Thr
 705 710 715 720
 Asn Glu His Glu Arg Val Val Lys Ala Ala Ser Gly Ala Leu Arg Asn
 725 730 735
 Leu Ala Val Asp Ala Arg Asn Lys Glu Leu Ile Gly Lys His Ala Ile
 740 745 750
 Pro Asn Leu Val Lys Asn Leu Pro Gly Gly Gln Gln Asn Ser Ser Trp
 755 760 765
 Asn Phe Ser Glu Asp Thr Val Ile Ser Ile Leu Asn Thr Ile Asn Glu
 770 775 780
 Val Ile Ala Glu Asn Leu Glu Ala Ala Lys Lys Leu Arg Glu Thr Gln
 785 790 795 800

Gly Ile Glu Lys Leu Val Leu Ile Asn Lys Ser Gly Asn Arg Ser Glu
805 810 815

Lys Glu Val Arg Ala Ala Ala Leu Val Leu Gln Thr Ile Trp Gly Tyr
820 825 830

Lys Glu Leu Arg Lys Pro Leu Glu Lys Glu Gly Trp Lys Lys Ser Asp
835 840 845

Phe Gln Val Asn Leu Asn Asn Ala Ser Arg Ser Gln Ser Ser His Ser
850 855 860

Tyr Asp Asp Ser Thr Leu Pro Leu Ile Asp Arg Asn Gln Lys Ser Asp
865 870 875 880

Lys Lys Pro Asp Arg Glu Glu Ile Gln Met Ser Asn Met Gly Ser Asn
885 890 895

Thr Lys Ser Leu Asp Asn Asn Tyr Ser Thr Pro Asn Glu Arg Gly Asp
900 905 910

His Asn Arg Thr Leu Asp Arg Ser Gly Asp Leu Gly Asp Met Glu Pro
915 920 925

Leu Lys Gly Thr Thr Pro Leu Met Gln Asp Glu Gly Gln Glu Ser Leu
930 935 940

Glu Glu Glu Leu Asp Val Leu Val Leu Asp Asp Glu Gly Gly Gln Val
945 950 955 960

Ser Tyr Pro Ser Met Gln Lys Ile
965

<210> 13
<211> 156
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(156)
<223> p16INK4a, Swissprot Accession P42771

<400> 13

Met Glu Pro Ala Ala Gly Ser Ser Met Glu Pro Ser Ala Asp Trp Leu
1 5 10 15

Ala Thr Ala Ala Ala Arg Gly Arg Val Glu Glu Val Arg Ala Leu Leu
Page 35

20 25 30
 Glu Ala Gly Ala Leu Pro Asn Ala Pro Asn Ser Tyr Gly Arg Arg Pro
 35 40 45
 Ile Gln Val Met Met Met Gly Ser Ala Arg Val Ala Glu Leu Leu Leu
 50 55 60
 Leu His Gly Ala Glu Pro Asn Cys Ala Asp Pro Ala Thr Leu Thr Arg
 65 70 75 80
 Pro Val His Asp Ala Ala Arg Glu Gly Phe Leu Asp Thr Leu Val Val
 85 90 95
 Leu His Arg Ala Gly Ala Arg Leu Asp Val Arg Asp Ala Trp Gly Arg
 100 105 110
 Leu Pro Val Asp Leu Ala Glu Glu Leu Gly His Arg Asp Val Ala Arg
 115 120 125
 Tyr Leu Arg Ala Ala Ala Gly Gly Thr Arg Gly Ser Asn His Ala Arg
 130 135 140
 Ile Asp Ala Ala Glu Gly Pro Ser Asp Ile Pro Asp
 145 150 155

<210> 14
 <211> 173
 <212> PRT
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)..(173)
 <223> p14arf, Swissprot Accession Q8N726

<400> 14

Met Gly Arg Gly Arg Cys Val Gly Pro Ser Leu Gln Leu Arg Gly Gln
 1 5 10 15
 Glu Trp Arg Cys Ser Pro Leu Val Pro Lys Gly Gly Ala Ala Ala Ala
 20 25 30
 Glu Leu Gly Pro Gly Gly Gly Glu Asn Met Val Arg Arg Phe Leu Val
 35 40 45
 Thr Leu Arg Ile Arg Arg Ala Cys Gly Pro Pro Arg Val Arg Val Phe
 50 55 60

Val Val His Ile Pro Arg Leu Thr Gly Glu Trp Ala Ala Pro Gly Ala
 65 70 75 80
 Pro Ala Ala Val Ala Leu Val Leu Met Leu Leu Arg Ser Gln Arg Leu
 85 90 95
 Gly Gln Gln Pro Leu Pro Arg Arg Pro Gly His Asp Asp Gly Gln Arg
 100 105 110
 Pro Ser Gly Gly Ala Ala Ala Ala Pro Arg Arg Gly Ala Gln Leu Arg
 115 120 125
 Arg Pro Arg His Ser His Pro Thr Arg Ala Arg Arg Cys Pro Gly Gly
 130 135 140
 Leu Pro Gly His Ala Gly Gly Ala Ala Pro Gly Arg Gly Ala Ala Gly
 145 150 155 160
 Arg Ala Arg Cys Leu Gly Pro Ser Ala Arg Gly Pro Gly
 165 170